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PATENT Attorney Docket No. LEX-002C1

# IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT(S):

Gillies et al.

SERIAL NO.:

10/005,212

GROUP NO.:

1646

FILING DATE:

December 4, 2001

EXAMINER:

P.M. Mertz

TITLE: .

HETERODIMERIC FUSION PROTEINS USEFUL FOR TARGETED IMMUNE THERAPY AND GENERAL IMMUNE STIMULATION

### CERTIFICATE OF FACSIMILE TRANSMISSION

I hereby certify that this correspondence, and any document(s) referred to as attached hereto, is/are being transmitted to the United States Patent and Trademark Office, Facsimile No. (703) 746-5300 on this 10th day of March, 2003.

Diane Racicot

#### Attached hereto is/are:

1. Third Preliminary Amendment (6 pages).

Attorney Docket No. LEX-002C1

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Commissioner for Patents Washington, D.C. 20231

### THIRD PRELIMINARY AMENDMENT

Sir:

Please enter the following Preliminary Amendment for the above-identified continuation patent application.

### **AMENDMENTS**

Prior to substantive examination, kindly amend the application as follows.

#### In the claims:

Please amend claims 1, 2, 3, and 23 to read as follows. (A marked up version of the amended claims is attached at the end of this Amendment and Response.)

1. A heterodimeric fusion protein comprising a first and a second chimeric chain, said first chimeric chain comprising a portion of an Ig heavy chain linked by a peptide bond to a first subunit of interleukin-12 (IL-12), said second chimeric chain comprising a portion of an Ig heavy chain linked by a peptide bond to second subunit of IL-12, said first and second chimeric chains being linked by a disulfide bond.

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2. A fusion protein comprising a first chimeric Ig chain comprising a portion of an Ig heavy chain linked by a peptide bond to a first subunit of IL-12, said first subunit of IL-12 being linked to a second subunit of IL-12.

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- 3. The fusion protein of claim 2 further comprising a second chimeric Ig chain comprising a portion of an Ig heavy chain linked by a peptide bond to a first subunit of IL-12, said first subunit of IL-12 being linked to a second subunit of IL-12, said first and second chimeric chains being linked by a disulfide bond.
- 23. A method of increasing the circulating half-life of IL-12, comprising the steps of:
  - (a) linking a first subunit of IL-12 by a peptide bond to a polypeptide, thereby forming a first chimeric chain, said first subunit of IL-12 being linked to a second subunit of IL-12 by a disulfide bond;
  - (b) linking a first subunit of IL-12 by a peptide bond to a polypeptide, thereby forming a second chimeric chain, said first subunit of IL-12 being linked to a second subunit of IL-12 by a disulfide bond; and
  - (c) linking said first and said second chimeric chain by a disulfide bond, thereby forming a heterodimeric fusion protein,

said fusion protein having a longer circulating half-life than unlinked first and second subunits of IL-12.

#### REMARKS

Applicants have amended claims 1, 2, 3, and 23. Accordingly, after entry of this Preliminary Amendment, claims 1, 2, 3, 23, and 24 are pending in the Application. Applicants respectfully submit that no new matter is introduced by the amendment.